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EXAMINER	
LUKS, JEREMY AUSTIN	

ART UNIT	PAPER NUMBER
2837	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/685,273	Applicant(s) FLINTHAM, STUART A.	
	Examiner Jeremy A. Luks	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/12/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Figure A*.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin (4,378,983).

With respect to Claims 1 and 11, Martin describes a muffler body (Figure 2, #10) for containing an element requiring servicing (Col. 2, Lines 30-33), said body (10) having an open end (Col. 2, Lines 26-27), allowing access to said element (Col. 2, Lines 30-33), for removal and replacement of said element (Col. 2, Lines 30-33), through said open end (Col. 2, Lines 26-27), an end plate (14) closing said body (10) at said open end (Col. 2, Lines 26-27), at least one of said end plate (14) and said open end (Col. 2, Lines 26-27) of said body (10) having a flared rounded portion (Figure 10, #80), a clamp (100) releasably clamping said end plate (14) to said open end (Col. 2, Lines 26-27) to close said body (10) and being releasable to permit removal of said end plate from said open end (Col. 4, Lines 1-2) of said body (10) for gaining access to said element (Col. 2, Lines 30-33).

With respect to Claims 2 and 12, Martin describes said body (10) is closed by said end plate (14) without welding (See Figure 2, section Y; Figure 10).

With respect to Claims 3 and 13, Martin describes said body (10) is closed by said end plate (14) and sealed (Figure 10, #84) thereto at said open end (Col. 3, Lines 57- Col. 4, Line 6).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 4-10 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (4,378,983) in view of Hess (3,921,754).

With respect to Claims 4, 14 and 15, Martin describes an end plate (Figure 10, #14) with a flared rounded portion (98), and releasable clamp (Figures 10 and 11, #100) to remove said end plate (Figure 2, #14) from said open end (Col. 2, Lines 26-27) of said body (10) and removing said element through an aperture (Col. 4, Lines 1-2).

Martin fails to describe said open end of said body comprising a flared rounded portion, said aperture comprising a flange having an outer border with a flared rounded portion complemental to the flared rounded portions of each of said end plate and said open end of said body, and having an inner border. Martin further fails to describe said apertured flange remaining mounted to said open end of body.

Hess describes an open end of said body with a flared rounded portion (Figure A – an exploded and labeled view of Hess' Figure 7, provided by Examiner on last page of this document, #1042), an apertured flange (1074) having an outer border with a flared rounded portion (1046) complemental to the flared rounded portions (1042) of each of said end plate and said open end of said body, and having an inner border defined by an aperture therethrough. Hess further describes said apertured flange (1044) remaining mounted to said open end of body (1044) (See complete locking configuration of Figure A).

It would have obvious to one of ordinary skill in the art at the time of the invention to combine the clamp and flared rounded apparatus of Martin with the flange configuration of Hess in order to more durably hinge and connect all the parts of the enclosure, protecting the entire body from coming apart at the seams due to vibrations from the filter/exhaust apparatus while in use. Further, it would have been obvious to keep said apertured flange connected to said open end of body in order to prevent the wear and tear, and labor of constantly removing and installing said apertured flange.

With respect to Claim 5, Hess describes the axial alignment of said flared rounded portions (Figure A, #1042, #1046) of said open end of said body and of said apertured flange (1044), wherein said flared rounded portion (1046) of said apertured flange (1044) is located axially between said flared rounded portion of said end plate and said flared rounded portion (1042) of said open end of said body.

With respect to Claim 6, Hess describes where said flared rounded portion (Figure A, #1046) of said apertured flange (1044) has a first arcuate surface (1056) facing in a first axial direction away from said second axial end (1054) of said body, and has a second arcuate surface (1058) facing in a second axial direction toward said second axial end (1054) of said body, said second axial direction being opposite to said first axial direction, and wherein said first arcuate surface (1056) of said flared rounded portion (1046) of said apertured flange (1044) engages said flared rounded portion of said end plate, and said second arcuate surface (1058) of said flared rounded portion (1046) of said apertured flange (1044) engages said flared rounded portion (1042) of said open end of said body.

With respect to Claim 7, Hess describes said open end of said body has a first section (Figure A, #1060) extending axially along said first axial direction to said flared rounded portion (1042) of said open end of said body (1026), and has a second section (1062) extending axially along said second axial direction from said flared rounded portion (1042) of said open end of said body (1026), said second section (1062) having a terminating end (1064) spaced laterally outwardly of said first section (1060) by a pocket (1066) of given lateral width, wherein said flared rounded portion (1046) of said apertured flange (1044) is a first rounded portion (1068) of said apertured flange (1044), and wherein said apertured flange (1044) has a second rounded portion, and wherein said apertured flange has a first section (1077) extending axially along said first axial direction to said first rounded portion (1046) of said apertured flange (1044), and has a second section (1072) extending axially along said second axial direction from said first rounded portion (1046) of said apertured flange (1044) to said second rounded portion (1068) of said apertured flange (1044), and has a third section (1074) extending axially along said first axial direction from said second rounded portion (1068) of said apertured flange (1044), and wherein said third section (1074) of said apertured flange (1044) extends axially into said pocket (1066).

With respect to Claim 8, Hess describes said second rounded portion (Figure A, #1068) of said apertured flange (44) has a first arcuate surface (1076) facing axially in said first axial direction toward said terminating end (1064) of said second section (1062) of said open end of said body (1026). Hess further describes engagement of said first arcuate surface (1056) of said first rounded portion (1046) of said apertured flange (1044).

With respect to Claim 9, Hess describes that said apertured flange (Figure A, #1044) is curled around said open end of said body (1026) in an interference lock-fit permanently mounted to said body (1026) such that said apertured flange (1044) remains on said body (1026).

With respect to Claim 10, Hess describes said flared (1042) rounded portion of said open end of said body (1026) has a convex curvature facing in a first axial direction away from said second axial end (1054) of said body (1026), said flared rounded portion (1046) of said apertured flange (1044) is a first rounded portion of said apertured flange (1044), and wherein said apertured flange (1044) has a second rounded portion (1068), said first rounded portion (1046) of said apertured flange (1044) having a convex curvature facing in said first axial direction, said second rounded portion (1068) of said apertured flange (1044) having a convex curvature facing in a second axial direction toward said second axial end (1054) of said body (1026), said second axial direction being opposite to said first axial direction, said first (1046) and second (1068) rounded portions of said apertured flange (1044) being axially spaced from each other and engaging said open end of said body (1026) at axially spaced engagement points, with a section (1062) of said body trapped therebetween, preventing axial movement of said apertured flange (1044) along said body (1026).

With respect to Claim 16, Martin describes a muffler body (Figure 2, #10) for containing an element requiring servicing (Col. 2, Lines 30-33), said body (10) having an open end (Col. 2, Lines 26-27) allowing access to said element (Col. 2, Lines 30-33) for removal and replacement of said through said open end (Col. 2, Lines 26-27), said body (10) extending axially along an axis between first and second distally opposite axial ends (14,16), said first axial end being said open end (14), said body (10) having an axially extending sidewall, providing an aperture (24) having an outer border for cooperating with said open end (Col. 2, Lines 26-27) of said body (10), and having an inner border defined by an aperture therethrough, wherein said element Col. 2, Lines 30-33) in said body (10) is removed and replaced through said aperture, Martin further describes a receiving end plate (14) clamped thereto (100).

Martin fails to describe an apertured flange wherein said apertured flange having an axially extending sidewall, and comprising inserting said apertured flange into said body, with said sidewalls in abutting relation, and flaring at least one of said sidewalls to a flared rounded configuration having a convex curvature facing in a first axial direction away from said second axial end of said body.

Hess describes an apertured flange (Figure A, #1044) wherein said apertured flange (1044) having an axially extending sidewall (1070), and comprising inserting said apertured flange (1044) into said body (1026), with said sidewalls (1070, 1060) in abutting relation, and flaring at least one of said sidewalls (1070, 1060) to a flared rounded configuration (1046) having a convex curvature facing in a first axial direction away from said second axial end of said body (1054).

It would have obvious to one of ordinary skill in the art at the time of the invention to combine the filter/exhaust apparatus of Martin with the open end and aperture flange flared Hinge of Hess in order to more durably lock the hinge and end plate of the enclosure, protecting the entire body from coming a part at the seams due to vibrations from the filter/exhaust apparatus while in use.

6. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (4,378,983) in view of Hess (3,921,754), and in further view of Wessely (4,055,133).

Martin and Hess are relied on for the reasons and disclosures set forth above.

With respect to claims 17 and 22, Martin and Hess fail to describe a method wherein said body has a first end, and said sidewall of said apertured flange has a first end, and comprising inserting said apertured flange into said body such that said sidewall of said apertured flange extends beyond said first end of said sidewall of said body and such that said first end of said sidewall of said apertured flange is spaced from said first end of said sidewall of said body, and comprising flaring and curling said sidewall of said apertured flange around said first end of said sidewall of said body and flaring and curling both of said sidewalls around said open end of said body.

Wessley describes a method wherein said body (Figure 3, #2) has a first end (See opposite end of #2), and said sidewall (3) of said apertured flange (4) has a first end (6), and comprising inserting said apertured flange (4) into said body (2) such that said sidewall (3) of said apertured flange (4) extends beyond said first end (See opposite end of #2) of said sidewall (1) of said body (2) and such that said first end (6) of said sidewall (3) of said apertured flange (4) is spaced from said first end (See opposite end of #2) of said sidewall (1) of said body (2), and comprising flaring and curling said sidewall (3) of said apertured flange (4) around said first end (See opposite end of #2) of said sidewall (1) of said body (2) and flaring and curling both of said sidewalls (1,3) around said open end of said body.

It would have obvious to one of ordinary skill in the art at the time of the invention to combine the construct the end seam of the apparatus of Martin and Hess with the triple roll seaming method described by Wessely in order to more durably connect the seams with the triple roll as opposed to the double roll described by Hess.

With respect to Claim 18-21 and 23, Wessely teaches a method comprising flaring said sidewall (Figures 3, #3) of said apertured flange (4) around said first end (1) of said sidewall of said body (2) and flaring both of said sidewalls around said open end of said body (2) such that said sidewall of said body (26) has a first section (1) extending axially along said first axial direction to a flared rounded portion (See Figure 6) of said open end of said body (2), and has a second section (See Figure 6) extending axially along a second axial direction from said flared rounded portion of said open end of said body (2), said second axial direction being opposite to said first axial direction, said second section (See Figure 6) of said sidewall of said body (2) having a terminating end at said first end (Figure 6, #1) of said sidewall of said body (2) and spaced laterally outwardly of said first section (1) of said sidewall of said body (2) by a pocket (See Figure 8) of given lateral width, and such that said sidewall of said apertured flange (4) has a first section (6) extending axially along said first axial direction to a first rounded portion (See Figure 6) of said sidewall of said apertured flange (4), and has a second section (16) extending axially along said second axial direction from said first rounded portion of said sidewall (3) of said apertured flange (4) to a second rounded portion of said sidewall (3) of said apertured flange (4), and has a third section (Figure 8, #19) extending axially along said first axial direction from said second rounded portion (See Figure 6) of said sidewall (Figure 1, #3) of said apertured flange (4), said third section (Figure 8, #19) of said sidewall (Figure 1, #3) of said apertured flange (4) extending axially into said pocket (See Figure 8). Wessely further describes a method wherein said sidewall (1) of said body (Figure 3, #2) has a pre-flared laterally extending portion at a first end, said sidewall (3) of said apertured flange (4) has a pre-flared laterally extending portion (5) at a first end (6) extending laterally beyond said first end of said sidewall (1) of said body (2), and comprising engaging first end (6) of said sidewall (3) of said apertured flange (4) with a mandrel (15) having a curved engagement surface, and moving said mandrel (15) laterally inwardly toward said body (2) to further flare and curl said sidewall (3) of said apertured flange (4) around said first end of said sidewall (1) of said body (2), and continuing to move said mandrel (15) laterally inwardly to further flare and curl of both of said sidewalls (1,3) around said open end of said body (2). Wessely further describes a method wherein at the completion of said continued movement of said mandrel (Figure 3, #15), said first end (See opposite end of #2 in Figure 3) of said sidewall (1) of said body (2) is spaced laterally outwardly of said first end (6) of said sidewall (3) of said apertured flange (4) by a lateral gap (See gap in Figure 7) therebetween, and comprising engaging said curled and flared sidewall (3) of said apertured flange (4) with a second mandrel (20), and moving said second mandrel (20) laterally inwardly to close said lateral gap (See gap in Figure 7) and move said first end (See opposite end of #2 in Figure 3) of said sidewall (1) of said body (2) laterally into engagement with said first end (6) of said sidewall (3) of said apertured flange (4) (See Figures 7-8 for engagement process).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pertinent arts of record to serviceable mufflers and seaming end enclosure methods are disclosed in PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy A. Luks whose telephone number is (571) 272-2707. The examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeremy Luks
Patent Examiner

Art Unit 2837

Edgardo San Martin
Primary Patent Examiner

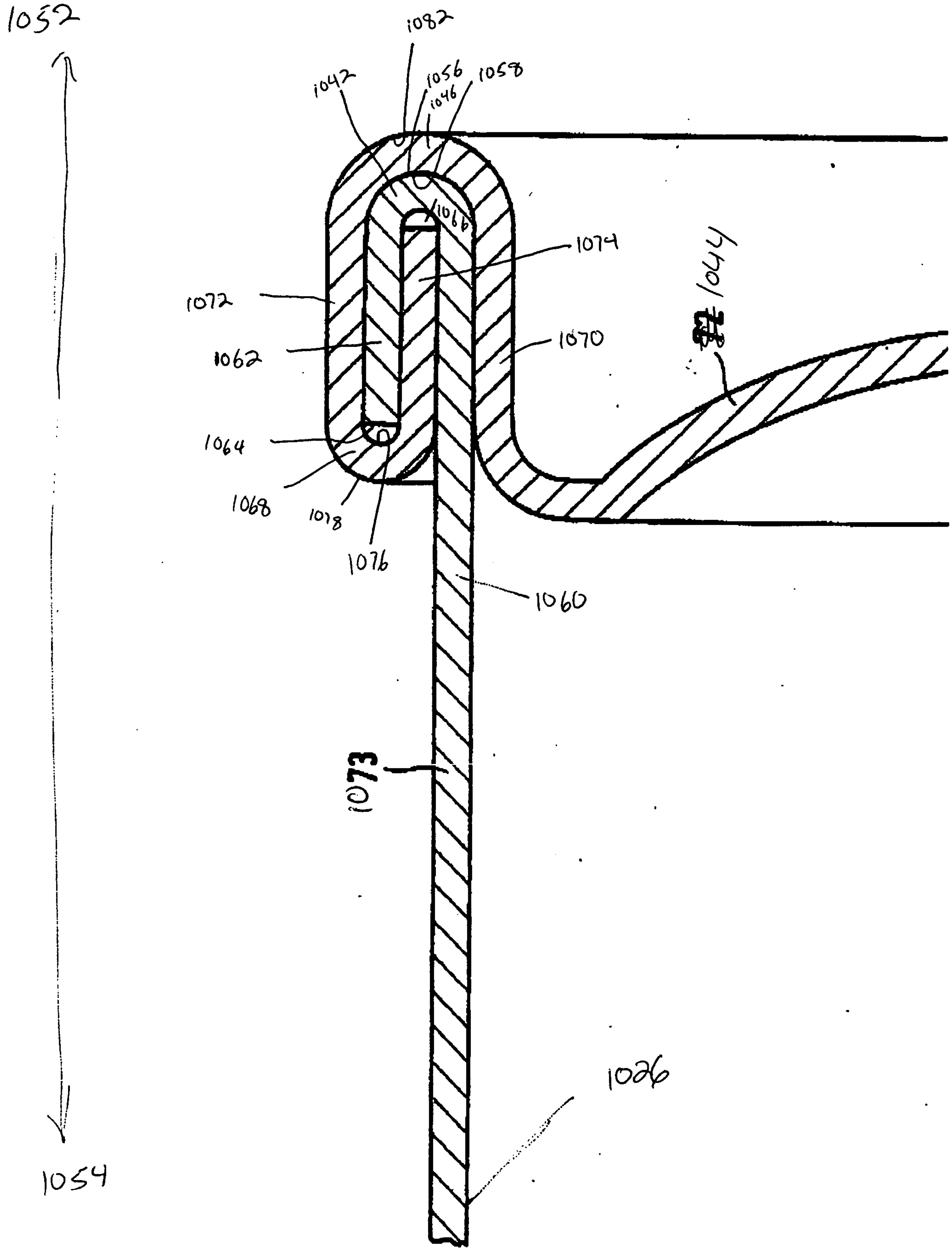

Figure A